Forintek Canada Corp.

# Annual Report 2003–2004

25 Years of Making a Difference

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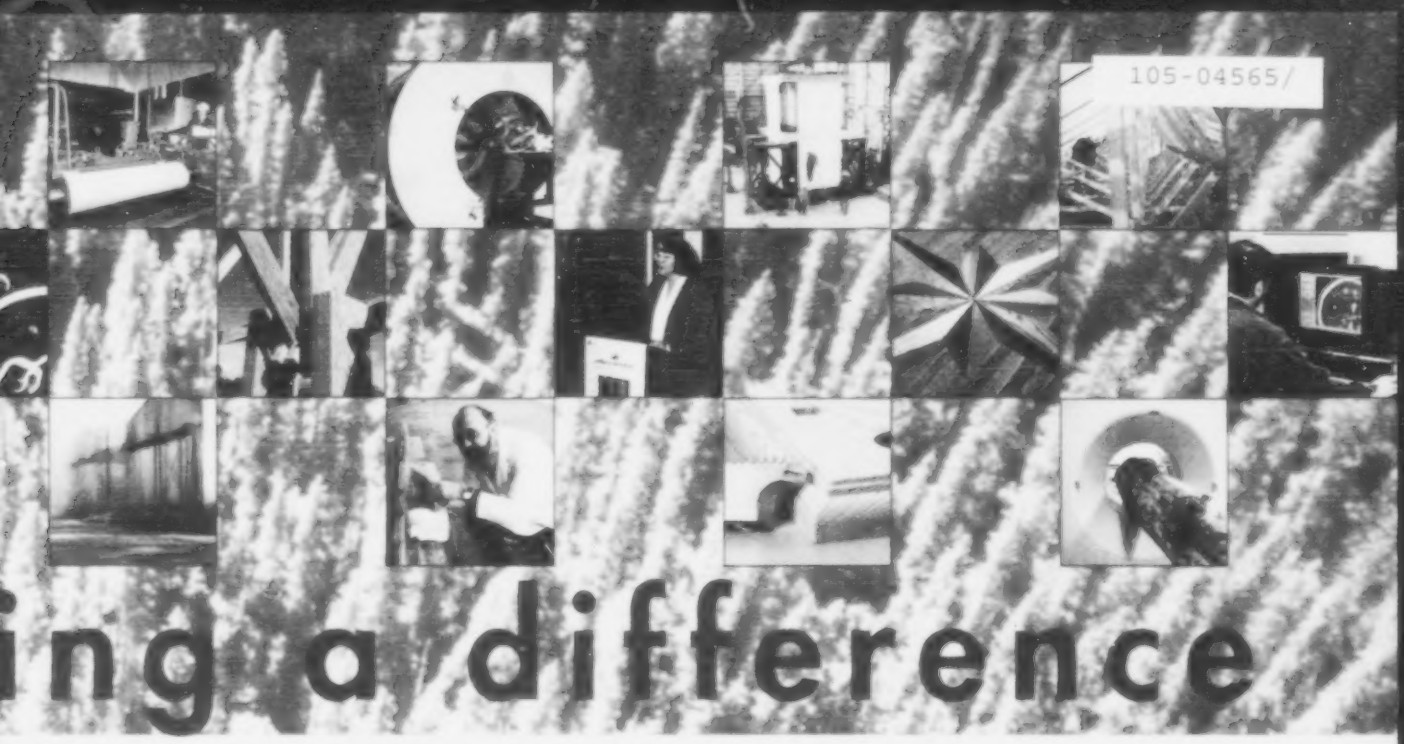



**Forintek's mission is to be the leading force in the technological advancement of the Canadian wood products industry, through the creation and implementation of innovative concepts, processes, products and education programs.**

# Message from the Chairman and the President

Sandy Gray
**Board Chairman**

Ian de la Roche
**President & CEO**

Twenty-five years ago, the Berlin Wall still existed and China was just beginning to experiment with a market economy. At the same time, Forintek was struggling to make the transition from a research laboratory in the federal government's Canadian Forest Service to a private, not-for-profit corporation.

When Forintek was privatized in 1979, the federal government remained a major financial supporter, contributing $4 million of the $7.3 million budget. The Province of British Columbia contributed $1.5 million, a little less than $1 million came in donations from the nine industry companies represented on the Board of Directors, and the balance was made up by contract revenue. A lot has changed in 25 years.

This year, our budget was $28.1 million and Forintek had seven member provinces plus the federal government. Manitoba joined Forintek on April 1st and the remaining two provinces are expected to join in the coming year.

From 1979 to 1984, industry funding was an on-going challenge. During those years, several companies across Canada pledged contributions, but there was no sustainable system in place. The watershed membership funding formula that we continue to use today was put in place on April 1, 1984. This was one of the key success factors for Forintek.

Since then, industry has come on board in a big way. Today, we have over 190 members, consisting of 139 primary and secondary wood processors and 54 suppliers to industry. The balance of contributions has also changed. Today, the industry's contribution has doubled in proportion to what they were paying in the early 1980s. Regardless of the size of the investment, membership fees continue to be money well spent. Independent analyses have shown that wood products' manufacturers receive between $8 and $12 in research value for every dollar they invest and similar returns have been demonstrated for government investments.

During the transition from a federal laboratory to a private, not-for-profit company, Forintek inherited equipment that was either obsolete or badly in need of repair. Today, we operate some

Official opening of CT Imaging Centre, western laboratory, June 17, 2003.

of the most unique and cutting-edge research equipment available anywhere in the world, such as our Computed Tomography (CT) lab, sawmill scanning test lab, medium-density fibreboard (MDF) pilot plant, and oriented strandboard (OSB) test facilities. Last June, we held an official opening for our $3.6 million CT Imaging Centre at the western laboratory.

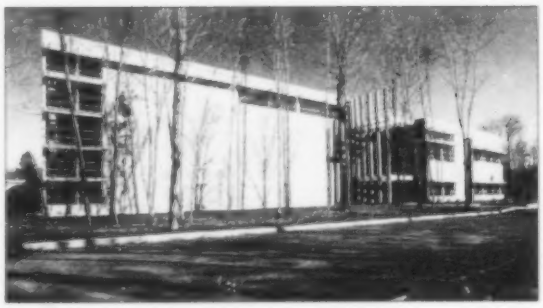
The original Forintek buildings in Vancouver and Ottawa were obsolete. With a lot of hard work by a lot of people, and funding support from federal and provincial governments and industry members, two new showcase laboratories were built in Vancouver and Quebec City. We also operate satellite offices at other key regional locations across the country.

Simple facts like these help to remind us of how much our world and our institute have changed, as we celebrate "25 years of making a difference".

Over the years, Forintek has faced many challenges. However, two factors have kept the institute viable and valuable to our members.

The first is the way that Forintek's strategic direction and research program are directed by our membership through their participation on the Board of Directors, National Research Program Committee (NRPC) and Technical Advisory Committees (TACs). This ensures that our program delivers value to our members. In 1992, we undertook a major change in the program planning system when the NRPC and TACs were changed from regional to national. This created a fundamental shift in our operations and resulted in a truly National Research Program (NRP).

Every three to four years, Forintek management, the Board and the NRPC undertake an in-depth examination of the strategic direction for the National Research Program. A key component of this review is the assessment of global mega-trends, particularly those that are likely to have an impact on our industry in the future. These reviews have served us well. The move to a value-chain approach; the creation of the internationally supported ATHENA™ Sustainable Materials Institute for life-cycle research; starting a national value-added program; establishing



the Markets & Economics group; and building code development in China, Taiwan and Korea all emanated from the 1992 and 1996 strategic reviews. The results of reviews in 2000 and 2003 are now being realized within the organization, and by our members, as we refine our research strategies and objectives to meet the emerging challenges facing the corporation and our members.

Another key factor that has helped to keep Forintek financially viable has been the growth of our contract portfolio. The revenue we derive from this income stream has helped to supplement the support we receive through membership fees for the NRP. Contract revenue has increased from $3.7 million in 1996–1997 to over $11.3 million today. Contract work has the added benefit of showcasing our world-class talent and keeps Forintek's employees in touch with the needs of our members and their customers. It has been vital in ensuring our core competencies are maintained for the NRP.

Probably the biggest impact on Canada's forest industry over the past 25 years has been greater public concern for the environment, with intense pressure on forest companies to practice sustainable forest management. Canadian industry has responded positively to this challenge and now has an excellent record. Forintek's scientists and technologists have had to take these challenges into account by helping our members make better use of the forest resource. As far back as 1988, we began providing our members with information that allows them to understand how forest management practices affect end-product quality. Our sensitivity to the environment issue continues today in several research areas.

Since 1991, Forintek has been part of a group effort, using life-cycle analysis, to improve wood's image as a renewable and more environmentally friendly alternative to other building materials in residential and non-residential construction. As mentioned previously, in 1997, it was spun-off as the ATHENA™ Sustainable Materials Institute—a not-for-profit corporation that has carried on this work. One of the key objectives was to ensure that all building materials were treated equally when assessing the life-cycle of building products. The ATHENA Environmental Impact Estimator tool is gaining in popularity with architects, designers and engineers around the world. A large body of data on environmental comparisons has since been gathered that has unequivocally demonstrated the environmental superiority of wood construction over competing materials.

Other projects aimed at helping our members reduce the environmental footprint of their processes include finding more environmentally friendly bio-protectants against stain, mold and decay in green lumber and logs. We are also investigating environmentally acceptable alternatives for manufacturers of treated wood. Working with organizations like Canadian Wood Council, Council of Forest Industries, Quebec Wood Export Bureau and others, we continue to promote wood as a renewable and more environmentally friendly alternative in both residential and non-residential construction, in Canada, the U.S. and internationally.

Borate-treated lumber is effective against termites.

An example of being in tune with the times was the decision in 1996 to establish the Markets & Economics group. Whether it is discovering demand for environmentally friendly lumber treated for termite-resistance for export to the U.S. southeast or high-end aspen lumber for Japan, this group has helped put some solid numbers and reasons behind the pursuit for greater value in Canadian wood products. The group's work last year to identify component purchasing trends among finished wood product manufacturers in the U.S. is helping Canadian component manufacturers to re-focus their operations in response to new market opportunities. The Markets & Economics group is demonstrating how we can add further value and knowledge along the value-chain by better understanding the market place and the attributes demanded by the customer.

The development of more powerful computer technology over the past 15 years has sparked considerable work at Forintek on computer modelling and optimization tools, mostly directed at improving processing efficiencies, increasing recovery and quality, and reducing costs. Given the popularity of these models and tools among our members, it would appear that we are on the right track in that regard. Typically, Forintek's tools and systems are constantly being improved so that our members have the best technology and most up-to-date information available at any given time.

With 25 years of quality research and technology transfer behind us, there have been many discoveries and projects that have made a real difference. Historically, Forintek's tools and systems have been improved or combined with other systems, often resulting in a cascade of improvements over time as they become integrated into our members' operations.

The development of engineered wood products has been one area of significant product growth over the past 25 years. Forintek's experts have helped to develop the technical specifications needed for these products to gain acceptance

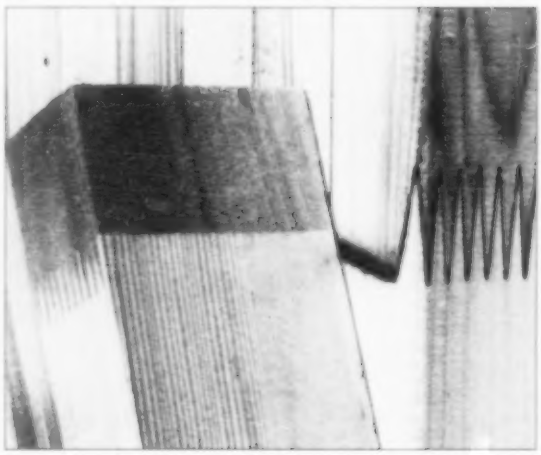
Modelling research will mean more value being extracted from every log.

within the construction and wood product manufacturing market. To help achieve this, we formed alliances with other research institutions such as the Alberta Research Council on OSB research and technology transfer.

No research organization can survive without working with others—and much of our research work is done in collaboration with other organizations. Since its inception, Forintek has worked hard to leverage its research efforts through partnerships. At present, we have 72 research and technology transfer alliances with domestic and foreign universities, institutes and associations. These partnerships also help open doors to potential markets for Canadian wood products; a notable example of this is our recent success in working with China and Taiwan on the revisions to their wood building codes and standards.

Over the years, Forintek has received tremendous support from our industry members through their championing of specific research projects and by making their facilities available for mill trials. Our government members have also responded in a timely manner with well-funded programs to address specific challenges and needs of the Forintek membership. The number of provincial value-added programs currently in place is just one example of responding to an identified need, as are Natural Resources Canada's *Value to Wood* and Canada Wood Export programs. *Value to Wood* has allowed Forintek to hire, and strategically locate, more Industry Advisors across Canada. These Industry Advisors work directly with wood product manufacturers to address specific technical, process and marketing challenges. The research component of *Value to Wood* helps provide solutions to current problems in the value-added sector, particularly around improvements in product quality and fibre utilization.

One of our key business priorities in 2003–2004 was member retention and strengthening the working relationship with members. While we

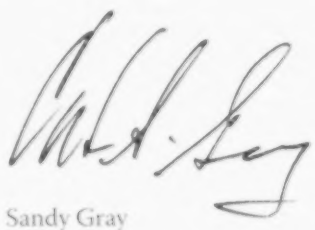


lost a few members as casualties of the economic downturn, successful recruitment and increased production resulted in a revenue increase. At the same time, the NRP was delivered within budget and met member expectations with relevant and quality information.

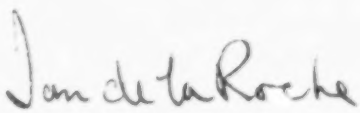
We were able to deliver positive financial results and maximize value for members because of two strategies. The first was to leverage additional research benefits through $8 million worth of non-proprietary research contracts. Secondly, we made effective use of our research alliances with other institutes and universities around the world. These alliances provided us with access to new expertise, specialized equipment and research facilities.

This year, Forintek continued its work with research organizations in Canada and the U.S. to defend wood's dominant position in single-family construction against substitute materials. We worked with others to expand the concept of hybrid construction in the multi-residential market, and to help grow market share in the non-residential market.

In conclusion, we consider it an honour to be your Board Chairman and President at this historic moment. We wish to express our appreciation to all members of the Executive Committee and Board, as well as to Forintek's management and staff, for their commitment to the key principles guiding this world-class organization. May the next 25 years be just as successful.



Sandy Gray
Board Chairman



Ian de la Roche
President & CEO

# 2003–2004 Research Program Highlights

The 2003–2004 research program reflects Forintek's unwavering dedication to serving the needs of our members—something we have held to steadfastly for the past 25 years. We are helping our members solve technical problems, expand product lines and recover extra value at every stage of the production process—from managing the resource to marketing the finished product.

The results from Forintek's diverse research program, which is directed by our growing membership, reaches forest products companies that comprise 70% of Canada's production volume. On the international stage, we are helping to establish building and fire code standards for wood-frame construction in an effort to open new markets for Canadian wood products. We are also providing sound advice to our secondary manufacturers on the best approaches to remain competitive in a global market.

Investing in new technology and production strategies can be a challenge. However, our hands-on approach to testing various technologies and production methods has earned high praise from our members. Forintek's computer modeling programs and test facilities are among the best in the world for providing practical and affordable solutions. The information acquired from computer models and experimentation has helped our members adopt new technology with confidence, keeping Canada's forest industry on the leading edge.

Forintek's research and technology transfer successes would not have been possible without our government and industry members, and our research partners. These include industry associations, universities, and other research institutes, both domestic and international. Our members have benefited significantly from this partnership approach, which leverages the cost of research and development with organizations that share common objectives.

This Annual Report provides highlights from Forintek's research program over the past year. For a more detailed explanation of the goals, methodologies, and findings of individual research projects, please refer to this report's companion document, *Progress and Achievements 2003–2004*.

The following summaries are divided into the specific focus areas that reflect the needs of our diverse membership.

# Resource Assessment Highlights

Forintek's Resource Assessment group continued to focus on meeting its main objective, which is to demonstrate species-by-species the wood quality attributes of our diverse forest resource, and then to determine how these attributes can be maintained or improved in future forests.

A considerable amount of research took place within the group's resource characterization program. The internal viewing capabilities of Forintek's new Computed Tomography (CT) scanners were particularly useful, as the information provided by these scanners has significantly improved the quality of information scientists can now access. This year, we further developed image analysis software, which extracts a log's internal information, such as pith and knots, from CT data. This three-dimensional (3D) internal log information is being integrated into Forintek's newest version of the Optitek™ sawing simulator. The next version of Optitek™ currently in development will be able to optimize bucking and sawing strategies for individual logs, taking into account integrated internal defects and desirable end-products. This research work started in 2002–2003, when a series of white spruce CT images were used to develop preliminary algorithms for identifying and displaying two-dimensional (2D) log shape, pith location, heartwood-sapwood boundary, and internal defects such as knots. As a next step, Forintek will apply its internal defects model to lodgepole pine and western hemlock.

In addition to using CT scanner data to develop more powerful production software, this information is also extremely valuable to forest management planners. They need access to quality information to help them adjust harvesting and silviculture practices so that logs entering the sawmill or engineered wood products' plant have a high potential for achieving maximum product value. All the information gathered under the resource characterization program will be linked by specific forest type, site characteristics and forest management practices to form part of the Canadian Fibre Database and Stem Bank.

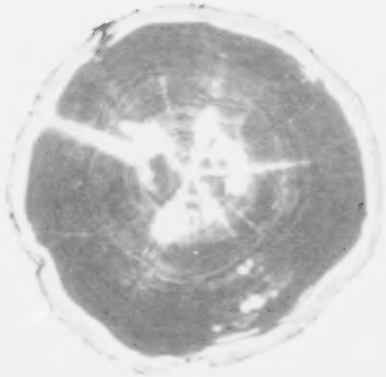
The advantage of CT scanning's 'through-the-log' viewing capability is also helping scientists offer solutions to the problems of wetwood pocket recognition and drying of subalpine fir. Information on the presence and location of wetwood pockets would allow industry to significantly increase value recovery and help sawmills develop kiln control strategies through the creation of more homogeneous lots of green subalpine fir lumber. Forintek continued to develop 3D visualization software to allow for more accurate CT analyses of the distribution of wetwood and knot data obtained from the CT

scanner. Work began in 2002–2003 to develop preliminary software modules to visualize 3D log features and recognize log shapes and knot/wetwood patterns from reconstructed CT images. The software can communicate spatial arrangements of critical wood characteristics such as knots and wetwood within simulated CT logs, onto lumber and veneer surfaces. With the most recent version of the software, we will run simulations to examine the feasibility of pre-sorting subalpine fir logs on the basis of external shapes and internal characteristics.

In eastern Canada, Forintek and its partners continued a multidisciplinary project aimed at maximizing the value of the black spruce and jack pine forests. Funding was provided through Ontario's Living Legacy Trust (LLT) for a project entitled, *Incorporating Wood Quality Traits in Black Spruce and Jack Pine Tree Improvement Programs in Northwestern Ontario for High-quality and Maximum Yield Fibre*. The LLT also approved the first phase of a project on *Maximizing the Value of the Ontario Hardwood Resource through Intensive Silviculture and Improved Utilization*.

Forintek, FERIC and NRCan's Canadian Forest Service (Laurentian Forestry Centre) have also set up a Forest Innovation Partnership to support additional technology transfer related to forest management. The Federal Government, through Canada Economic Development (CED), is contributing $567,000 towards the project. Two foresters have been hired to set up seminars and other networking activities throughout Quebec for this purpose. The Partnership will draw from Forintek's resource assessment research and complementary projects from FERIC and the Laurentian Forestry Centre to offer solutions leading to productivity gains and improved methods in forestry operations. The total value of the project investment should reach $2.05 million over three years.

Black spruce stand.



CT scan of subalpine fir showing knots and wet pockets.

Work continued on developing strategies for our Ontario and Quebec sawmills on how they can sort yellow spruce from black spruce. Yellow spruce is a challenging species to dry because it contains a lot of wet pockets. Our scientists found that the best way to sort yellow spruce is by weight or moisture content, then dry it on its own. Tests on 300 full-size pieces of 2x3 and 2x4 lumber showed no statistical difference between black spruce from normal stands and from stands with a high probability of yellow spruce in terms of wood density, modulus of elasticity, and modulus of rupture.

Further testing of white spruce took place in Saskatchewan and researchers discovered a consistent pattern throughout second-growth white spruce stands in BC, Alberta and Saskatchewan. This project's aim was to confirm that tree characteristics and basic wood properties of boreal second-growth white spruce vary consistently with growth rate and site index throughout western Canada, so that stand management practices may be modified to achieve a better compromise between growth rate and mechanical properties for this species.

Hybrid poplar plantation.

Results show a clear and consistent effect of growth rate on wood density, and, consequently, on strength and stiffness properties. All data collected have been entered in the Canadian Fibre Database for comparative analysis with the Statistical Analysis System (SAS).

Hybrid poplar plantation owners could realize higher income from their trees based on a Forintek study aimed at investigating potential alternative uses for this fibre besides pulpwood. The study's conclusion was that certain hybrid species would make good feedstock for laminated veneer lumber (LVL) and plywood. As the price for peeled quality logs is double the value of pulpwood, this may encourage more landowners to establish hybrid poplar plantations aiming for veneer quality. Forintek worked with the Saskatchewan Forest Centre to test locally grown, short-rotation hybrid poplar. The bottom portion of trees, with fewer knots and branches, were peeled for veneer, while the upper portions were tested for use in oriented strandboard. Forintek tests also showed that hybrid poplar veneers could be used interchangeably with aspen and spruce veneers in structural plywood panels. We plan to use CT scanning of internal defects in aspen to increase value extraction.

# Composite Products Highlights

The Composites research group works in areas of interest to our members—veneer, oriented strandboard (OSB), medium-density fibreboard (MDF) and plywood. This year, we also participated in a number of high-profile symposia and seminars related to engineered wood products.

The value that Forintek's research brings to our membership was evident from a report given at last June's Technical Advisory Committee (TAC) meeting. It showed that from 1997 to 2003, technological innovation has allowed the OSB industry to reduce variable costs by 15 per cent. That's $10.8 million for a typical mill and $192 million for Forintek/Alberta Research Council (ARC) Consortium members. On a conservative basis of 20 per cent of these gains credited to the Consortium, the return on our members' investment was in the order of 10:1.

As further recognition of Forintek's reputation for unbiased scientific excellence, we now provide monitoring inspections for the Composite Panel Association's Environmentally Preferable Product (EPP) Certification Program. All EPP-certified composite wood panels must contain 100 per cent recycled or recovered fibre content and meet industry emission standards, including formaldehyde.

A new version of our highly successful veneer incisor roller bar was introduced this year. It has narrower and sharper teeth, resulting in better penetration, flatter veneer, better tracking and less spin out. Because the new roller bar also operates much more smoothly, there are fewer instances of veneer thickness variations. A number of veneer mills that have put the new incisor roller bar into commercial production have noted that the sharper teeth incise better in knot areas without putting too much pressure on the block. The majority of Forintek member plywood/laminated veneer lumber (LVL) companies now use the incisor roller bar technology.

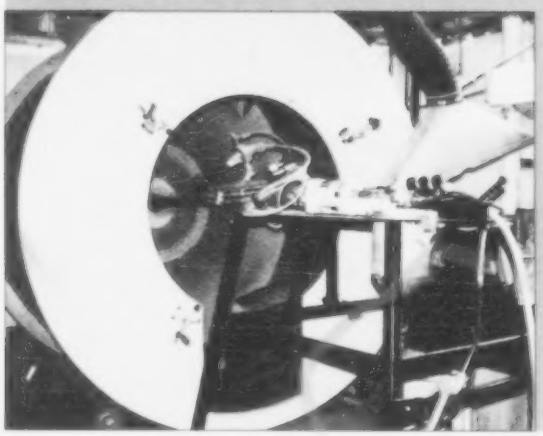
We are also in the process of transferring Forintek's methodology to optimize veneer drying to industry. Veneer drying has been the focus of our plywood program over the past three years, with highly successful results. A mini-dryer and pilot-scale veneer dryer have been installed in Forintek's western laboratory, which significantly improved our testing capabilities. Computer software programs have been developed to simulate drying processes of jet dryers (VDry-J) and longitudinal dryers (VDry-L). Both models are capable of simulating airflow, temperature variation, humidity inside the dryers and moisture content variations in veneers as they are being dried.

Press productivity is a major factor in the profitability of MDF plants. Last year, Forintek continued its study related to development of a tool to optimize MDF hot-pressing parameters and to evaluate innovative strategies. Based on our findings from a computer simulation model created to describe the process and the material behaviour of a typical industrial MDF continuous hot-press, we explored the benefits of pre-heating the fibre mat with microwave radiation. By doing so, we determined that the high initial temperature achieved in the fibre mat core allowed the core temperature to rise faster in the press, resulting in a substantial reduction of the pressing time. The microwave pre-heating treatment also had the effect of redistributing moisture towards the mat surface, which led to improved surface quality and reduced surface resin pre-cure and degradation.

We also offered our members a simulation model to optimize hot-pressing parameters for plywood and LVL, with the support of the Canadian Plywood Association and industry. Called VPress, it is designed to simulate the evolution of temperature, moisture and density profiles in individual veneer piles and gluelines. It allows users to optimize the production balance between hot-press time, panel compression and panel quality. Our plywood/LVL members were also offered a new hot-pressing strategy that has been shown to have a significant impact on pressing time and material recovery.

The quality of raw material has a significant bearing on the properties of the finished product for both our MDF and OSB members. We examined the effect of outdoor log storage on aspen wood and the quality of subsequent OSB, as well as comparing MDF panels manufactured from fresh shavings to panels made from aged shavings originating in three different outdoor piles.

Forintek's five-year partnership in an OSB research and technology transfer consortium with the Alberta Research Council continues to bear fruit. In fact, the Consortium has become a leader in the development of simulation models for OSB. This year, a number of improvements to existing computer models were made. For example,



MatPress, which describes the relationship between hot-pressing schedules and OSB panel attributes, was upgraded from a 2D to a 3D model. The new model improves the prediction accuracy of heat and moisture transfer, and that of the vertical density profile during the hot-pressing process. Our most widely distributed software program for composites, Logcon, was converted to Java format.

Recent projects have also supported our members' marketing strategies aimed at reinforcing their position in existing markets and adjusting attributes to new applications. Some of these attributes are biological resistance and moisture permeability for sheathing, moisture resistance for flooring and sub-flooring, analyzing requirements for I-joist webs, investigating fastener-holding properties, and testing panel stability as it relates to furniture.

In recent years, rapid growth of OSB production has led to a concern regarding the availability of aspen wood materials to support the needs of the industry. The use of fast-growing species having similar characteristics to aspen as alternatives in OSB production may provide a long-term solution to economically extend the industry's wood fibre supply. This year, Forintek investigated the specific potential of hybrid poplar and hybrid larch. Overall, the study showed that there is potential for using fast-growing hybrid poplar and/or hybrid larch species as raw material furnish in OSB production.

With the introduction of high-density hardwoods like birch and maple as a feedstock in OSB production, folded flakes have created a panel quality problem as a result of inconsistent resin distribution. A Forintek study to address this problem found that strand folding is caused by cracks generated on one face of the flakes due to unbalanced stresses caused by the flaking operation. Wider flakes typically roll up in the dryer and fold in the mat-forming and pressing operations. With this discovery, further research will be conducted to pursue the development of a model to optimize strand production parameters for product quality and manufacturing cost.

# Lumber Manufacturing Highlights

Forintek's lumber manufacturing research and technology transfer programs cover all aspects of lumber conversion, from stem bucking to lumber grading, in accordance with the priorities set by our members.

To advance our research, we have been fortunate to acquire some of the most advanced research tools available so that we can present our members with strategies and services that will help them maintain their competitive position and improve market share.

In June, we held an official opening for the $3.6 million Computed Tomography (CT) Imaging Centre at our Vancouver Laboratory. The objectives of the Centre include finding better ways to predict the internal characteristics and defects of logs, so that the highest possible value can be extracted from each piece of lumber. The industrial CT scanner designed for this specific purpose complements a medical CT scanner already available to our eastern staff in Quebec. With the CT scanners' ability to visualize internal defects in 3D, the potential for sawing optimization technology transfer to our members is enormous, and it is already happening.

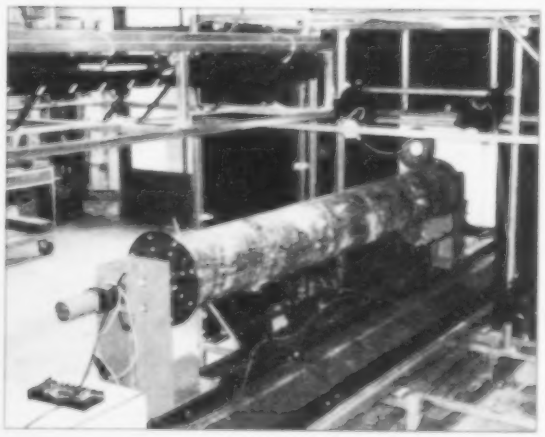
Our lumber manufacturing and mathematics scientists used information provided by CT scanner images to design a 3D log model including internal defects in a format readable as part of our popular Optitek™ software. Optitek™ models the manufacturing process and evaluates the effect of modifications to the wood supply, the product range or the process itself. Sawmills find Optitek™ particularly useful in answering a variety of 'what if' scenarios.

The transition from Optitek™ version 4.2 to version 5.1 is now complete. The new version offers greater user-friendliness and flexibility, in addition to adopting a new environment that is better suited to the further evolution of the program. The program now considers product sizes as well as wane and knot restrictions based on National Lumber Grades Authority (NLGA) classification rules to determine output. Members can download the current version of Optitek™ from the Forintek website. It is already being successfully used by a number of our members.

Given the highly technical nature of modern Canadian sawmills, the industry is in constant need of properly trained employees and a facility to keep current employees up-to-date on technical advances. Forintek and its partner, Simlog, have introduced a commercial version of the world's first virtual softwood sawmill. It consists of three breakdown machines and associated equipment. Forintek supplied the 'logs,' in the form of data for almost 1,000 logs and hundreds of cants and boards, collected

from real mills over several years of performance enhancements. It has been installed at the Duchesnay Forestry/Sawmilling College northwest of Quebec City, becoming the school's main tool to teach students the art of operating and managing softwood sawmilling under near-real conditions. Additional simulator units are being installed at two other forestry schools in Quebec—Mont-Laurier and Dolbeau. The virtual softwood sawmill's standard database can be modified to simulate an existing mill's wood supply to make the simulation even more realistic.

Primary lumber producers now have access to a research facility that replicates actual sawmill conditions, so they can learn about and test drive the technology before making a financial commitment. About half a million dollars has been spent to build the facility as part of Forintek's pre-existing sawmill lab in Vancouver. The Canada Foundation for Innovation contributed $96,000, with considerable in-kind donations from a number of scanning system manufacturers. It is considered the best facility in the world for what it does. The facility consists of a linear carriage and track, general purpose scanner frame, transverse carriage and track, vendor-supplied scanner frames, scanners and sensors, as well as an overhead computer room mimicking a mill operator's booth. A variety of material, from stems, logs and cants, to flitches and boards, can be scanned at the same or higher speeds than in an actual sawmill environment. The facility also works well for developing tools and improving knowledge related to debarking.



Many specific industry challenges are tackled through our many research projects and solutions are provided right at the mill level. For example, our scientists, working in collaboration with the University of British Columbia, made significant progress this year in developing a real-time statistical process control (SPC) system to provide accurate and reliable lumber quality information at production speeds. Included in this goal was extending the capability of existing systems to diagnose sawing and machining problems and produce information for feedback machine control and plant automation in primary and secondary manufacturing operations. We will pursue an industry partnership for final development and transfer to our members.

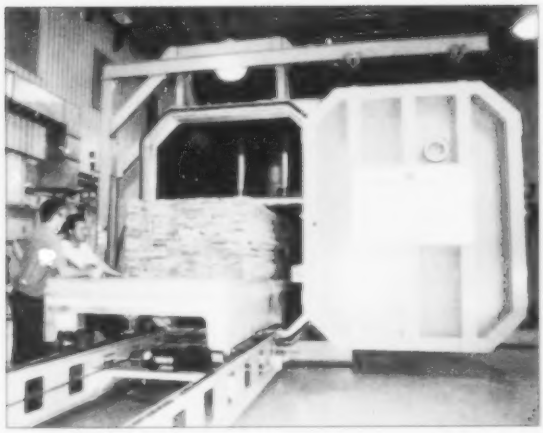
A trial installation of our bandsaw monitoring system improved sawblade cutting bias and within- and between-board deviation by at least 25 per cent and dropped the number of scheduled saw changes by half. The bandsaw system is able to monitor, record and display the sawblade cutting accuracy for each cut, as well as display

real-time traces of sawblade deviation. The system also provides warnings of over-limit sawing deviation, automatically recognizes saw changes, keeps a complete historical record of each saw's performance and has graphical output features.

Our research collaboration with Hydro-Québec in the *Électrobois* program is also yielding positive results. One example is tests that suggest that infrared radiation (IR) can be applied to thaw the inner bark of frozen logs, increasing both lumber recovery and chip quality. With a payback on equipment installation within a year, the IR system will provide Canadian mills with an alternative to hot water ponds.

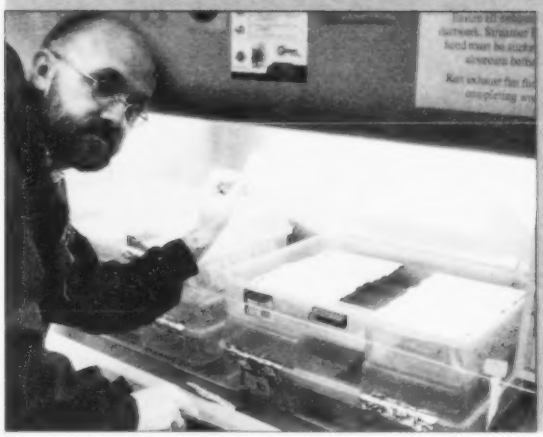
We have responded to the call from our members for the development of lumber drying optimizing tools and services to help recover maximum value from this important process in the manufacturing chain. Our Kiln Monitoring System (KMS) is one intensive and effective way to identify problems and revenue losses in the lumber-drying process. Through KMS, monitoring of a kiln takes place over a one- to three-month period using a number of data collection devices. During this time, maintenance personnel can carry out changes based on the data being gathered and verify their impact on drying conditions. Analysis of the results by Forintek drying scientists provides mill managers and kiln operators with possible solutions to troubleshoot and improve drying schedules, prepare justifications for capital investment and establish priorities regarding kiln repairs and upgrades.

Forintek is always interested in finding new and innovative ways of tackling the drying



process and that is what our partnership in the Quebec Ministry of Natural Resources-funded *Électrobois* program has accomplished during the first three-year phase of this partnership. Three projects under this program were related to lumber drying. The first related to the application of radio-frequency vacuum (RFV) drying aimed at developing practical information on this technique, then accelerating its transfer to both hardwood and softwood lumber producers. The second related to using a heat pump for high-temperature kilns. This process would reduce the use of fossil fuels and has the potential to reduce the cost of drying by 60 per cent. The third project investigated two drying techniques originating in Europe—mechanical drying and radio-frequency drying.

Members now have a number of new tools to help improve kiln value recovery. For example, Autolog Inc. has built and marketed a drying optimizer from a Forintek concept and prototype that helps mills sort high-moisture lumber from drier material for more uniform kiln loads. Preliminary tests show that the device is equally effective in sorting out balsam fir and subalpine fir with wet pockets. Another tool currently being validated is called DRYTEK. It is a two-dimensional heat and mass transfer model to simulate progression of



the drying process in a piece of lumber. Forintek and Laval University have been collaborating on the development of DRYTEK for the past few years.

Given the biological nature of wood, research into wood protection is an important concern of our members, often simply to better inform consumers as to the real danger of mold and fungi as compared to public perception. Forintek has supplied useful information to the public as well as new, environmentally sensitive, preventative treatments to our members to help them avoid problems associated with bluestain, hardwood discoloration and fungal degradation.

On the issue of eliminating bluestain, Forintek showed that a commercially available albino strain (Sylvanex, formerly called Cartapip®) can effectively control stain in pine logs by colonizing fresh sapwood and displacing wild bluestain fungi. At the same time, it remained stable in color and caused no stain. It is now being registered as a pesticide to use on logs and a ruling by the appropriate government regulatory agency is imminent. Forintek also produced a Wood Protection Bulletin, entitled, *Properties of Lumber with Beetle-Transmitted Bluestain*, to give our members some quality information related to bluestain lumber to share with their customers and the consuming public.

Preliminary results from a Forintek study conducted last year to quantify the value losses due to hardwood discoloration show that the loss in some instances is significant. The study also indicated that much of the discoloration observed was due to fungal rather than chemical stain. After determining the economic impact of discoloration, Forintek undertook a study to evaluate the effect of hardwood log storage methods on fungal development, offered guidelines on safe storage during summer and winter, and made suggestions on the timing of harvesting operations to minimize the potential for sapstain to occur.

Forintek is entering the commercialization stage of its highly effective bio-protectant agent called *Gliocladium roseum*. It has proven to be effective against mold, stain, and decay of green logs and lumber. The product is also expected to have a market edge over chemical products because of its low environmental and human health impacts.

# Building Systems and Markets Highlights

The objective of the Building Systems program is to provide optimum wood solutions to meet performance demands in targeted markets and construction end uses. Forintek is Canada's major source of scientific information supporting most new codes and standards, and changes to existing standards that control the application of wood-based building products in major export markets.

As these new and changed codes and standards become available, architects, designers, engineers and consumers are made aware of them. It is Forintek's objective to make a strong case from both performance and environmental impact points of view for greater use of wood in both residential and non-residential applications, as well as separating fact from fiction. Also, as new markets for buildings based on Canada's wood-frame construction system become apparent, it is important that Canadian wood products have the technical support to back performance promises.

The structural research program includes dealing with competition from non-wood building materials (mainly concrete, steel and masonry) and other suppliers of wood-based building materials, and technical barriers to the efficient and expanded use of wood products.

In 2003–2004, staff continued to participate in various seismic-related codes and standards committees in Canada, the U.S. and around the world. This work has established Forintek as a leader in providing information on the performance of wood structures under seismic loading, and it also helped to harmonize the approach that designers around the world use to design wood structures. Two projects were established this year: one to prepare for an eventual change in the seismic code, which threatens to put wood at a disadvantage, and the other to expand the opportunities for wood-frame construction in non-residential markets.

This year, successful Canada/U.S. initiatives to formally introduce wood-frame construction to China and Taiwan resulted in regulatory acceptance of platform-frame construction and development of code provisions that were conducive to the acceptance of Canadian dimension lumber. This work, as well as a similar study for the Korean market, was intended to ensure that there is a viable wood-frame market in the Far East that will complement the Japanese market.

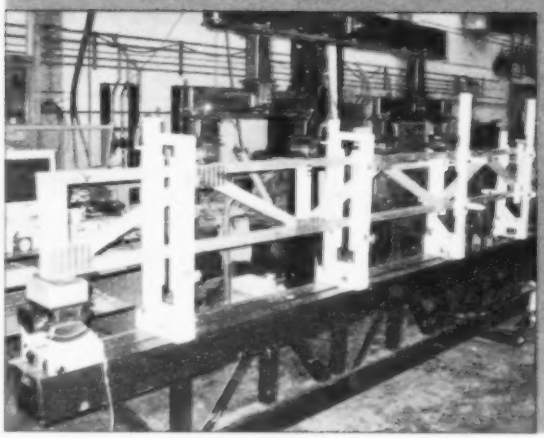
In Taiwan, the country's revised timber building code has generated considerable interest in wood-based construction, which is seen as earthquake-resistant and environmentally friendly. Last October, a scientist from the Taiwan Forest Research Institute visited the Vancouver lab to gather information on the use of BC hemlock and other wood construction data as

part of the scientific exchange program in place between the two organizations.

Both eastern and western staff continued to provide technical support to the NLGA and participate in committee or task group meetings. Staff provided input to the NLGA Standards Committee to assist in the interpretation and updating of the glued lumber and machine-graded lumber standards.

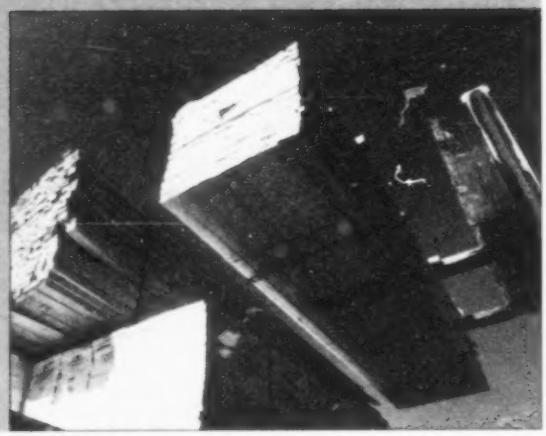
Other continuing research in the structural area included studies on the performance of metal plate-connected trusses, vibration performance of engineered wood floor systems, and wind load performance of wood systems.

As an example of the wind load performance research, in 2003–2004 Forintek and its partners completed the construction of a typical North American wood-frame test house in Fredericton, New Brunswick. It comes complete with instrumentation consisting of various load and deformation measuring devices. It will provide



a better understanding of how wind loads get transferred through the various building systems and components, paving the way for more efficient solutions to high-wind resistance. The test house also demonstrates various wood products to local and foreign visitors, including regulatory and design experts.

The Forintek-initiated project aimed at updating fire-resistance (FR) and sound-transmission-class (STC) data in the National Building Code was a priority in 1992. Then in 1995, the Canadian Commission for Building and Fire Codes decided to delete all FR and STC ratings from the National Building Code of Canada (NBCC) that could not be supported by contemporary data. As wood-frame assemblies, more than any other, are designed and built in accordance with these ratings, it was crucial for the wood industry to generate the necessary data and retain them in the building code. There have been many positive outcomes from this process. For example, instead of 12 designs for wood-frame walls and 18 for wood-frame floor/ceiling assemblies in the NBCC, there are now hundreds of designs for wood-frame walls and for wood-frame floor/ceiling assemblies, with more still to come. This research also brought together various aspects of building science (fire-resistance, structural engineering, and acoustical



performance) and demonstrated the need for researchers to coordinate efforts while developing innovative building solutions.

The continuing research work generated by the Forintek-supported Industrial Chair in Fire Safety Engineering at Ottawa's Carleton University has an important role to play in helping to change mindsets among the various members of the building community who determine whether wood will or will not be used. It also has the important role of developing essential models to facilitate design of fire safety features in engineered wood-based buildings. Forintek's market surveys indicate that concerns over fire safety continue to cause designers, owners and insurers to avoid the use of wood in non-residential building construction, even when it is permitted in building codes. The Chair's public profile was raised significantly last year during a campaign to raise funds for Carleton University's new, world-class Fire Research Facility—planned for completion in Fall 2004. The Chair also established an educational program in fire safety engineering at the university.

Forintek staff continue to work hard to present the facts on issues related to alleged health hazards from molds. While there is no scientific evidence linking occupant health problems to the presence in indoor air of molds growing on wood-based materials, a number of owners and builders have readily jumped to that conclusion. The issue threatens to tarnish the image of wood as a desirable building material in the public's perception. Last year, the Building Microbiology Database was improved to include the creation of new search engines, a new output display and a functionality to generate and print summary reports capable of listing articles. Throughout the year, Forintek staff attended a number of meetings, presenting current information on molds and building materials, and contributed facts to a debate often dominated by fiction.

Last year, scientists working within Forintek's Building Systems group continued to document the performance of wood-based building materials with respect to their impact on the environment. Given that wood buildings are perceived as offering much shorter service lives than buildings from other structural materials, Forintek undertook a survey to gather data on actual service lives. We commissioned a survey on buildings demolished in 2000–2003 in a large U.S. city. The majority of buildings in Forintek's survey were demolished for reasons other than material serviceability. Factors such as changing land values and building unsuitability for current needs were commonly cited. Only eight demolition projects out of 277 identified a specific structural failure, and only one of these was wood decay. Most of the non-residential buildings in the sample had service lives of 50 years or less, which is almost certainly shorter than their theoretical maximum

service lives. These results were consistent with studies in other countries. We therefore concluded that building service life is unrelated to structural materials. One interesting additional finding from our study was that the demolished wood buildings, both residential and non-residential, tended to be older than the steel and concrete buildings.

This year, the Markets & Economics group took advantage of the high quality of new building systems' information being generated within the organization and elsewhere. For example, two Forintek scientists co-organized and participated in a joint Forintek/Tongji University/Canada Wood conference in China last December. The conference was geared to architects, engineers, and developers to expose them to wood roof trusses specifically, and hybrid construction generally, as an alternative to steel trusses. In November, Forintek and Tongji University signed a Memorandum of Understanding to collaborate on research on wood structures, specifically wood hybrid structures.

Forintek's market intelligence efforts also made important headway in Korea over the past year. Code revisions there are creating new possibilities for wood construction. The scientific agreement signed by Forintek with the Korea Forest Research Institute (KFRI) has enabled the two organizations to pursue active exchanges. A senior KFRI research scientist arrived in July for two years at the Vancouver lab to address wood engineering performance issues and facilitate harmonization between Canadian and Korean codes. Last fall, KFRI's Director General and Director of International Cooperation visited Forintek's labs in Vancouver and Quebec City to further explore opportunities for cooperation in timber engineering.

The Markets & Economics group investigated a major opportunity for supplying borate-treated lumber to the U.S. south. The USDA Forest Service has estimated annual damage to U.S. wood structures by termites at $2 billion. Available statistics indicate, however, that the use of treated framing lumber and panels in the U.S. south, where termites are most prevalent, is far from common practice—less than 10 per cent of the volume that could be used. Researchers concluded that market penetration would benefit from homeowner education initiatives, combined with efforts to sensitize builders/developers to the importance of insect-protection in homebuyers' decisions.

# Value-Added Highlights

Forintek's Value-Added program took a major step forward this year with our participation in the full implementation of the Natural Resources Canada-funded *Value to Wood* program. This initiative covers the whole supply chain, from evaluating species' characteristics to processing technology, new products and market opportunities. It builds on partnerships with provinces and regional development agencies. With the hiring of more Industry Advisors networked throughout Canada, we now offer an unparalleled level of technical support to existing secondary and value-added wood product manufacturers, or those contemplating investment in this area. In addition to working directly with product manufacturers, our Industry Advisors play an important role as the communication link between research results and companies involved in product manufacturing.

Forintek staff spent a considerable amount of time last year informing industry about what the *Value to Wood* program has to offer, and various ways that manufacturers can add value to current products and develop new markets. Some examples include:

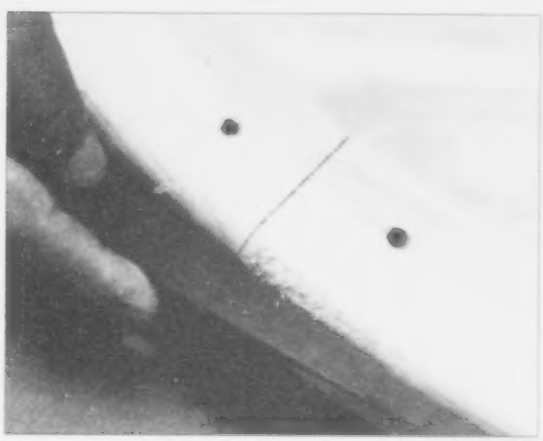
- In cooperation with Nord-Aski, CEFNO, Industry Canada and the Collège Boréal, *Opportunities for value-added wood products in Northern Ontario* was held in Hearst last September.
- Small primary sawmill operators, secondary wood manufacturers and landowners interested in establishing fibre plantations for profit gathered in Prince Albert, Saskatchewan and Edmonton, Alberta. The seminars, *Developing opportunities for sawing, grading and marketing quality timber*, were designed to spur business development within Saskatchewan's and Alberta's agroforestry and forest sector as well as disseminate information and technology surrounding proper sawing and drying of fibre for value-added purposes. Last fall, Saskatchewan's secondary manufacturers were also invited to attend a workshop themed, *Managing for quality*.
- Two seminars were held in the Maritimes. The first, *Wood components*, was held in Moncton, in cooperation with the Wood Products Group and ACOA; and the second, *Wood furniture packaging*, was held in Charlottetown, in cooperation with ACOA-PEI. Attendees at these seminars found the topics relevant and the information provided useful for their business.

A 16-page document, *Protecting and Finishing Log Buildings*, was produced. It provides potential log home buyers with quality information about the benefits and care of log homes. It also provides log builders with a professionally prepared, unbiased document to share with potential clients to answer questions they may have about protecting log buildings.

Forintek launched the *Value to Wood* newsletter and website to keep industry participants informed about what the program has to offer. The newsletter presents a number of case studies showing how our Industry Advisors have helped manufacturers improve productivity, solve technical challenges, reduce waste and improve equipment performance.

There is also a research component to the five-year *Value to Wood* program. It combines Forintek's strengths with those of four leading universities in the field of wood products: University of British Columbia, University of Toronto, Laval University and University of New Brunswick. In 2003–2004 Forintek initiated 14 projects that were approved by the *Value to Wood* Research Advisory Committee.

For example, our scientists worked with industry to improve its knowledge of which parameters in the face- and edge-gluing wood products' manufacturing process have the greatest impact on product quality. Once these critical parameters are identified, companies can then establish internal best practices to ensure consistent handling and processing of materials.



Design- and moisture-related gluing issues

A comprehensive two-part investigation was launched to identify and isolate the areas that affect glue-bond quality, and the results were made available to industry through a *Technology Profile*.

Forintek has also recognized the increasing popularity of engineered wood flooring and produced two *Technotes* related specifically to helping manufacturers maintain a high performance standard for this product. The first, *The Design of Engineered Flooring* makes suggestions to manufacturers on how to avoid cupping; and the second, *Adhesives Use d to Manufacture Engineered Flooring Strips*, makes suggestions on which adhesives work best depending on the service life expectancies of the product.

Our staff participated in three projects aimed at strengthening wood's long-term resistance to weathering. Preserving wood against the ever-present agents of light, moisture and oxygen will help ensure the competitiveness of Canadian wood products in world markets, satisfy customer expectations with regard to exterior applications, and add value to wood products whose natural appearance is a marketing advantage. In a second project, Forintek and the University of

British Columbia's Centre for Advanced Wood Processing began developing a Canadian Centre of Excellence in surface modification of wood, the chemistry of wood surface protection and the study of wood weathering mechanisms. Finally, Forintek released a report showing results from 24 months of testing carried out at natural exposure test sites in Vancouver, Quebec City and Mississippi. The tests cover various finishes on eight Canadian wood species.

A project was completed that will provide better understanding of the influences and interactions larger builders increasingly will have on the softwood lumber and composite panel industries. Researchers documented the actual and prospective construction techniques of the largest U.S. builders so they could determine the product and supplier factors affecting their purchase of wood products.

This year, findings were compiled from 40 years of research carried out by Forintek and others on finger-jointing processes and products. A report is available to members and a handbook will be published next year. Another project was completed that will improve productivity and market share for Canadian prefab home manufacturers. The aim is to assist Canadian fabricators to mechanize their methods, develop computer-based tools, and improve the performance, quality and diversity of their products.

Forintek staff participated in a study conducted as part of Quebec's *Brigades* Program, aimed at better characterizing the growing component manufacturing industry in Quebec. The Quebec government is using the survey results to set up a database of component manufacturers in the province.

A keen interest in high-value aspen was discovered among Japanese furniture and interior finish manufacturers last year. Our Markets & Economics group followed up by interviewing potential Japanese consumers concerning which grade mix, sizes and moisture content they would require. Literature was reviewed on western Canadian aspen resource characteristics and solid lumber processing capacity, including interviews with existing aspen lumber producers. Group members also selected logs deemed suitable for the manufacture of products demanded by Japanese specifiers at either a sort yard or log infeed deck. The plan is to put actual product into the hands of potential consumers next year so they can use the material to experiment in their manufacturing processes.

The Markets & Economics group also conducted important market intelligence studies aimed at assisting the Canadian value-added component manufacturing industry refine its marketing effort to suit the needs of North American final product producers. A study entitled, *The North American Value-Added Components Industry: Overview and Market Opportunities*, showed a definite trend toward more component outsourcing by producers of furniture, wood finishings and other wood-based industrial sector products. Faced with the high cost of labour and technology in North America, many final product producers have recognized that there are many benefits to outsourcing to reliable component manufacturers that own high technology and high volume equipment. In addition to presenting survey responses from component manufacturers and consumers, the study also includes both technical and market overviews of various component sectors, including equipment requirements for manufacturing specific types of components.

# Consolidated Financial Statements

March 31, 2004

## Auditors' Report

May 7, 2004

To the Members of
Forintek Canada Corp.

We have audited the consolidated balance sheet of Forintek Canada Corp. as at March 31, 2004 and the consolidated statements of operations and fund balance, changes in net assets and cash flows for the year then ended. These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these consolidated financial statements present fairly, in all material respects, the financial position of the Corporation as at March 31, 2004 and the results of its operations, changes in its net assets and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

PricewaterhouseCoopers LLP

Chartered Accountants

## Consolidated Balance Sheet

As at March 31, 2004

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| **Assets** | | |
| Current assets | | |
| Cash | 1,144,376 | 29,752 |
| Accounts receivable | 5,612,272 | 7,161,478 |
| Work-in-progress | 787,085 | 1,526,379 |
| Prepaid expenses | 149,397 | 226,775 |
| | 7,693,130 | 8,944,384 |
| Capital assets (*note 3*) | 40,596,832 | 41,973,457 |
| | 48,289,962 | 50,917,841 |
| **Liabilities and Fund Balance** | | |
| Current liabilities | | |
| Accounts payable and accrued liabilities | 2,732,155 | 3,334,308 |
| Deferred revenue (*note 5*) | 658,768 | 1,888,048 |
| Current portion of obligation under capital leases (*note 7*) | 59,368 | 46,986 |
| Current portion of long-term debt (*note 8*) | 120,000 | 55,000 |
| | 3,570,291 | 5,324,342 |
| Deferred pension liability | 2,980,500 | 2,521,200 |
| Deferred contributions related to capital assets (*note 6*) | 35,388,872 | 37,386,844 |
| Obligation under capital leases (*note 7*) | 97,245 | 109,262 |
| Long-term debt (*note 8*) | 200,000 | 265,000 |
| | 42,236,908 | 45,606,648 |
| Fund balance | | |
| Invested in capital assets | 4,733,250 | 4,112,265 |
| Internally restricted (*note 9*) | 250,000 | – |
| Unrestricted | 1,069,804 | 1,198,928 |
| | 6,053,054 | 5,311,193 |
| | 48,289,962 | 50,917,841 |

Approved by the Board of Directors

Director

Director

## Consolidated Statement of Changes in Net Assets

For the year ended March 31, 2004

| | | | | 2004 | 2003 |
|---|---|---|---|---|---|
| | Unrestricted $ | Internally restricted $ | Invested in capital assets $ | **Total $** | Total $ |
| Balance—Beginning of year | 1,198,928 | – | 4,112,265 | **5,311,193** | 4,293,945 |
| Excess (deficiency) of revenue over expenses for the year | 1,447,010 | – | (705,149) | **741,861** | 1,017,248 |
| Investment in capital assets | (1,310,941) | – | 1,310,941 | – | – |
| Disposal of capital asset | 34,754 | – | (34,754) | – | – |
| Repayment of capital lease obligation | (49,947) | – | 49,947 | – | – |
| Transfer to internally restricted fund (*note 9*) | (250,000) | 250,000 | – | – | – |
| Balance—End of year | 1,069,804 | 250,000 | 4,733,250 | **6,053,054** | 5,311,193 |

## Consolidated Statement of Operations and Fund Balance

For the year ended March 31, 2004

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Revenue | | |
| Government contributions and industry member assessments | 18,774,682 | 15,574,276 |
| Contract fees | 9,156,514 | 9,855,978 |
| Other income | 411,118 | 507,250 |
| | 28,342,314 | 25,937,504 |
| Expenses | | |
| Administrative | 948,768 | 987,456 |
| Laboratory | 8,297,180 | 7,629,867 |
| Premises | 2,136,717 | 1,955,300 |
| Staffing | 15,497,885 | 13,687,640 |
| | 26,880,550 | 24,260,263 |
| Excess of revenue over expenses before the following | 1,461,764 | 1,677,241 |
| Amortization of deferred contributions related to capital assets | 2,007,972 | 1,547,082 |
| Loss on disposal of assets | (14,754) | – |
| Depreciation and amortization | (2,713,121) | (2,207,075) |
| Excess of revenue over expenses for the year | 741,861 | 1,017,248 |
| Fund balance—Beginning of year | 5,311,193 | 4,293,945 |
| Fund balance—End of year | 6,053,054 | 5,311,193 |

## Consolidated Statement of Cash Flows

For the year ended March 31, 2004

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Cash flows from operating activities | | |
| Excess of revenue over expenses for the year | 741,861 | 1,017,248 |
| Items not affecting cash | | |
| Amortization of deferred contributions related to capital assets | (2,007,972) | (1,547,082) |
| Depreciation and amortization | 2,713,121 | 2,207,075 |
| Loss on disposal of assets | 14,754 | – |
| | 1,461,764 | 1,677,241 |
| Increase in deferred pension liability | 459,300 | 106,300 |
| Changes in non-cash working capital balances, excluding current portions of obligation under capital leases and long-term debt | 534,444 | (3,888,441) |
| | 2,455,508 | (2,104,900) |
| Cash flows from investing activities | | |
| Purchase of capital assets | (1,320,940) | (4,198,814) |
| Proceeds on sale of capital assets | 20,000 | – |
| | (1,300,940) | (4,198,814) |
| Cash flows from financing activities | | |
| Contributions used to acquire capital assets | 10,000 | 2,650,585 |
| Repayment of capital lease obligation | (49,944) | (42,733) |
| | (39,944) | 2,607,852 |
| Increase (decrease) in cash during the year | 1,114,624 | (3,695,862) |
| Cash—Beginning of year | 29,752 | 3,725,614 |
| Cash—End of year | 1,144,376 | 29,752 |

# Notes to Consolidated Statements

March 31, 2004

## 1. Purpose of the Corporation

Forintek Canada Corp. is a not-for-profit organization incorporated under Part II of the Canada Corporation Act.

The purpose of the Corporation is to be the leading research organization for the technological advancement of the Canadian solid wood products industry, through the creation and implementation of innovative concepts, processes, products, and training programs. The Corporation depends on member and government contributions and contract revenue to support its activities.

In the event of dissolution, the net assets of the Corporation are to be distributed to a similar not-for-profit organization for the purposes of continuing scientific research.

## 2. Significant accounting policies

**Basis of presentation**

These financial statements include the accounts of the Corporation and its wholly owned U.S. subsidiary, Forintek International Incorporated (FII). FII was incorporated on December 22, 1998 and has not commenced operations.

**Use of estimates**

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of member assessment receivables, work-in-progress, and deferred revenue as at year-end. Estimates also affect the reported amounts of related revenues and expenses. Actual results could differ from the estimated amounts.

**Revenue recognition**

The Corporation follows the deferral method of accounting for government contributions and industry member assessments, which are recorded when receivable and collection is reasonably certain.

**Industry member assessments**

Industry member fees are recorded based on self-assessments by each member of the amounts owing to the Corporation.

**Capital contributions**

Contributions provided specifically for the acquisition of capital assets are initially recorded as deferred contributions, and are included in revenue on the same basis as the related capital assets are depreciated.

**Contract revenue**

Revenue from contracts is recorded on the percentage-of-completion basis. Unbilled contract revenue, included on the balance sheet as work-in-progress, represents the excess of contract revenue earned over billings on specific contracts. Deferred contract revenue represents the excess of contract billings over revenue earned on specific contracts.

**Capital assets**

Capital assets purchased by the Corporation are recorded at cost less accumulated depreciation and amortization. Contributed capital assets are recorded at fair value at the date of contribution. Amortization and depreciation are provided over the estimated useful lives of the assets on a straight-line basis as follows:

| | |
|---|---|
| Leasehold interest in Vancouver land | 40 years |
| Buildings | 40 years |
| Laboratory and shop equipment | 10 years |
| Office equipment, furniture and fixtures | 5 and 10 years |
| Computer equipment and software | 5 years |

**Employee pension plan**

The Corporation provides contributory defined benefit pensions for its employees 30 years of age and over. The plan provides pensions based on length of service and best average five years' earnings. The Corporation's present funding practice is to match employee contributions to the plan and accrue the remainder of the annual pension expense as a deferred pension liability.

The Corporation accrues its obligations for employee pensions and the related costs, net of plan assets. The Corporation has adopted the following policies:

a) The cost of pensions earned by employees is actuarially determined using the projected benefit method pro-rated on service and management's best estimate of expected plan investment performance, salary escalation and retirement ages of employees.

b) For the purpose of calculating the expected return on plan assets, those assets are valued at market value.

c) Experience gains and losses outside the 10% corridor are amortized into pension expense over the expected average remaining service lifetime (EARSL) of the active members in the plan, using a level of percentage of covered payroll.

## 3. Capital assets

| | Cost $ | Accumulated depreciation and amortization $ | 2004 Net $ | 2003 Net $ |
|---|---|---|---|---|
| Vancouver | | | | |
| Prepaid land lease | 3,624,300 | 1,177,898 | **2,446,402** | 2,537,010 |
| Building | 20,649,623 | 6,720,292 | **13,929,331** | 14,446,767 |
| Quebec City | | | | |
| Land | 484,776 | – | **484,776** | 484,776 |
| Building | 17,337,885 | 3,716,472 | **13,621,413** | 13,858,260 |
| Laboratory and shop equipment | 20,270,263 | 11,158,598 | **9,111,665** | 9,733,783 |
| Office equipment, furniture and fixtures | 2,048,084 | 1,718,004 | **330,080** | 314,928 |
| Computer equipment and software | 1,939,422 | 1,266,257 | **673,165** | 597,933 |
| | 66,354,353 | 25,757,521 | **40,596,832** | 41,973,457 |

Included in office equipment, furniture and fixtures are items held under capital leases with a net book value of $214,868 (2003—$187,341), cost of $281,033 (2003—$230,723) and accumulated depreciation of $66,165 (2003—$43,382).

During the year, capital assets were acquired at an aggregate cost of $1,371,250, of which $50,310 was acquired by means of capital lease.

## 4. Bank indebtedness

The Corporation has an operating line of credit of $2,000,000 for general business purposes. Interest is charged at prime bank lending rate per annum. At year-end, there was no balance outstanding on the line of credit.

## 5. Deferred revenue

Deferred revenue consists of deferred contract revenue and operating contributions received for use in future periods.
The balances are as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Deferred contract revenue | 568,768 | 779,592 |
| Deferred operating contributions | | |
| Federal government | – | 1,108,456 |
| Provincial government | 90,000 | – |
| | 658,768 | 1,888,048 |

## 6. Deferred contributions related to capital assets

Deferred contributions related to capital assets represent contributions made by government and industry members for the purpose of constructing the Vancouver and Sainte-Foy facilities and for acquisition of specific equipment. The changes in the deferred contributions balance for the year are as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Balance—Beginning of year | 37,386,844 | 36,283,341 |
| Add: Contributions used to acquire capital assets | 10,000 | 2,650,585 |
| Less: Amounts amortized to revenue | (2,007,972) | (1,547,082) |
| Balance—End of year | 35,388,872 | 37,386,844 |

## 7. Obligation under capital leases

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| The Corporation has entered into four capital leases for the telephone system and four photocopiers. These leases have combined monthly payments of $11,646 and bear interest at between 7%–11%. The lease terms expire between June 2004 and September 2007 | **156,613** | 156,248 |
| Less: Current portion | **59,368** | 46,986 |
| | **97,245** | 109,262 |

The Corporation is committed to capital lease obligations as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Minimum lease payments | **189,605** | 183,935 |
| Less: Interest | **32,992** | 27,687 |
| Principal obligations | **156,613** | 156,248 |

Future minimum lease payments are as follows:

| | $ |
|---|---|
| Year ending March 31 | |
| 2005 | **67,904** |
| 2006 | **64,284** |
| 2007 | **45,631** |
| 2008 | **11,786** |
| | **189,605** |

## 8. Long-term debt

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Government of Canada loan, non-interest bearing, payable in annual instalments over five years commencing April 2003 | **320,000** | 320,000 |
| Less: Current portion | **120,000** | 55,000 |
| | **200,000** | 265,000 |

Estimated principal repayments on long-term debt are as follows:

| Year ending March 31 | $ |
|---|---|
| 2005 | **120,000** |
| 2006 | **60,000** |
| 2007 | **70,000** |
| 2008 | **70,000** |
| | **320,000** |

Initially, the government loan repayments were to commence in July 2001. The government agreed to a deferral of the first repayment to April 2003. The Corporation is currently requesting a further deferral on the repayment of the loan.

## 9. Internally restricted fund

During the year, the Corporation's board of directors approved the transfer of $250,000 from the unrestricted fund to create an internally restricted fund for the planned maintenance of the Quebec City building.

## 10. Employee future benefits

The information provided below on the pension plan is based on extrapolations to March 31, 2004 from the latest actuarial valuation which was at December 31, 2002. The effective date of the next required actuarial valuation is December 31, 2005.

The significant actuarial assumptions adopted in measuring the Corporation's accrued benefit obligations are as follows:

| | 2004<br>% | 2003<br>% |
|---|---|---|
| **Actuarial assumptions** | | |
| Discount rate | 6.5–6.0 | 7.0–6.5 |
| Expected rate of return on plan assets | 6.5 | 7.0 |
| Rate of compensation increase | 3.5 | 4.5 |
| Expected average remaining service life of employees | 12 | 12 |

The estimated present value of the accrued pension benefit obligation is as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Projected benefit obligations—Beginning of year | 24,137,300 | 22,071,400 |
| Service cost | 1,376,100 | 1,390,200 |
| Interest cost | 1,619,800 | 1,616,400 |
| Benefits paid | (1,187,100) | (739,300) |
| Actuarial losses | 2,010,100 | 2,486,600 |
| | 27,956,200 | 26,825,300 |
| Actuarial gains arising in completion of December 31, 2002 valuation | — | (2,688,000) |
| Accrued benefit obligation—End of year | 27,956,200 | 24,137,300 |

The fair value of the pension fund assets is as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Fair value of plan assets—Beginning of year | 21,889,100 | 24,739,000 |
| Actual return on plan assets | 4,815,500 | (2,877,400) |
| Corporation contributions | 412,800 | 383,400 |
| Employee contributions | 412,700 | 383,400 |
| Benefits paid | (1,187,100) | (739,300) |
| Fair value of plan assets—End of year | 26,343,000 | 21,889,100 |

The net accrued liability of the plan is as follows:

| | 2004<br>$ | 2003<br>$ |
|---|---|---|
| Funded deficit of the plan | (1,613,200) | (2,248,200) |
| Unamortized actuarial loss | 7,034,000 | 8,668,300 |
| Unamortized transition amount | (8,401,300) | (8,941,300) |
| Net accrued pension liability for accounting purposes | (2,980,500) | (2,521,200) |

The net pension expense for the year ended March 31, 2004 is $872,000 (2003—$490,000). The amount of benefits paid for the year is $1,187,100 (2003—$739,000).

The asset mix of the pension plan as of March 31, 2004 is as follows:

| | % |
|---|---|
| Canadian equity | 39.00 |
| Global equity | 24.25 |
| Fixed income | 32.25 |
| Cash | 4.50 |

## 11. Fair value of financial instruments

The Corporation has various financial instruments including cash, accounts receivable, and accounts payable and accrued liabilities. The estimated fair values of these financial instruments approximate their carrying values as the amounts are short term in nature. The fair value of the long-term debt is estimated at $297,000 assuming an effective interest rate of 3.34% per annum on the debt.

# Members

as at March 31, 2004

## Government

Natural Resources Canada
—Canadian Forest Service
Alberta
—Innovation & Science
British Columbia
—Ministry of Forests
New Brunswick
—Business New Brunswick
Newfoundland and Labrador
—Department of Forest Resources and Agrifoods
Nova Scotia
—Department of Natural Resources
Quebec
—Ministry of Natural Resources, Wildlife and Parks
Saskatchewan
—Ministry of Industry and Resources

## Industry

### Alberta

Atlas Lumber (Alberta) Ltd.
Boucher Brothers Lumber Ltd.
Buchanan Lumber (a division of Gordon Buchanan Enterprise Ltd.)
Crestview Sawmills Ltd.
Henry Vasseur Custom Planing Ltd.
Iager Building Systems Inc.
La Crete Sawmills Ltd.
Manning Diversified Forest Products Ltd.
Millar Western Forest Products Ltd.
Mostowich Lumber Ltd.
Northland Forest Products Ltd.
Rocky Wood Preservers Ltd.
Seehta Forest Products Ltd.
Spray Lake Sawmills (1980) Ltd.
Strachan Forest Products
Sundance Forest Industries Ltd.
Vanderwell Contractors (1971) Ltd.
Zavisha Sawmills Ltd.

### British Columbia

Ardew Wood Products Ltd.
Babine Forest Products Co. (a subsidiary of Weldwood of Canada Limited)
BC Birch Company
Canadian Forest Products Ltd.
Compwood Products Ltd.
Downie Timber Ltd.
Dunkley Lumber Ltd.
Federated Co-operatives Limited
Gorman Bros. Lumber Ltd.
Houston Forest Products Company (a subsidiary of Weldwood and West Fraser)
Kalesnikoff Lumber Company Limited
Kootenay Innovative Wood Ltd.
Lakeland Mills Ltd.
Lignum Ltd.
LP Engineered Wood Products Ltd.
Lytton Lumber Ltd.
Mill & Timber Products Limited
Pacific Homes
Pine Profiles Inc.
Pope & Talbot Ltd.
Quetico Industries Corp.
Richmond Plywood Corporation Limited
Riverside Forest Products Limited
Seel Forest Products Ltd.
Slocan Forest Products Ltd.
Snowcap Lumber Ltd.
Structurlam Products Ltd.
The Teal-Jones Group
TimberWest Forest Corp.
Tolko Industries Ltd.
Weldwood of Canada Limited
West Fraser Timber Co. Ltd.
Weyerhaeuser Company Ltd.

### New Brunswick

Boise Cascade Allfost Ltée
Groupe Savoie
Scieries Chaleur

### Nova Scotia

Barrett Lumber Co. Ltd.
Bowater Mersey Paper Co. Ltd.
Ledwidge Lumber Company Limited

### Ontario

Alpa Lumber Inc.
Columbia Forest Products Co. Ltd.
Estate Hardwood Floors
Longlac Wood Industries Inc.
McRae Lumber Company Ltd.
Norbord Industries Inc. (includes Nexfor Technology and Noranda Technology Centre)
Taiga Forest Products Ltd.

### Quebec

803-2608 Canada inc.
Abitibi-Consolidated Inc.
Barrette Inc.
Bois-Franc Inc.
Bois B.S.E. Lumber
Bois d'oeuvre Cedrico
Bois Daaquam Inc.
Bois de Structure Lee Inc.
Bois Omega Ltée
Bussières Inc.
Bowatee Produits forestiers du Canada Inc.
CFG Amerique Inc.
CIMDAT
E. Tremblay et Fils Ltée
Elon Morsan Inc.
Emco, Materiaux de construction Ltée
Felix Huard Inc.
Fontaine Inc.
Foresbec Inc.
Gerard Crête et Fils inc.
Gestofor Inc.
Gigantre & Morin Inc.
Groleau Inc.
Groupe G.D.S. Inc.
Huard Invest Canada
Industrie Bois Lamontagne Inc.
Industries Maibec Inc.
Industries Manufacturieres Megantic Inc.
Kruger inc.
Lauzon Industries Inc.
Les Bois Classic Canadien Inc.
Les Chantiers Chibougamau Ltée
Les Distributions Option Joli Inc.
Les Emballages lomat inc.
Les Entreprises JM Champeau inc.
Les Placages Profilex
Les Planchers Mercier Inc.
Les Produits forestiers Bellerive
Ka'N'Enda inc.
Louisiana-Pacific Corporation – Northern Division
Marcel Lauzon Inc.
Materiaux Blanchet Inc.
Max Meilleur & Fils Ltée
Multi Bois 9063-4221 Quebec Inc.
Pan-O-Start Inc.
PCI Industries
Pinexel Inc.
Precitech International Inc.
Preverco Inc.
Produits forestiers Domtar inc.
Produits forestiers La Tuque inc.
Produits forestiers Petit Paris inc.
Prokit Structural inc.
Romaro Structure Corp.
Sacopan inc.
Scierie Claude Forget inc.
Scierie Gaston Morin Inc.
Scierie Gauthier Ltée
Scierie Girard Inc.
Scierie Lac St-Jean inc.
Scierie Lachance Ltée
Scierie Leduc, Division of Stadacona Inc.
Scierie Martel Ltée
Scierie P.H. Lemay & Fils Ltée
Scierie Serdam inc.
Scierie St-Elzear
Scierie Thomas-Louis Tremblay inc.
Sciories Saguenay Ltee
Shermag Inc.
Simon Lussier Ltée
Solive Amuree 2000 Inc.
Sylvio Brunet & Fils Ltée
Tembec Inc.
Tuile Bois Francs Inc.
Umbrand Canada Inc.
Veyco Ins.

### Saskatchewan

Richwood Forest Products Ltd.

## Associate Members

Arch Wood Protection Canada Corp.
Ashland Specialty Chemical Co.
Autolog Inc.
Ayotte Techno-Gaz Inc.
Borden Chemical Canada Inc.
Carmanah Design and Manufacturing Inc.
Cathild Inc.
Chemco Acquisition Corp.
Clariant (Canada) Inc.
Comact Inc.
Conception R.P. inc.
Delmhorst Instrument Co.
Diacon Technologies Ltd.
Dieffenbacher North America Inc.
Doucet Machineries Inc.
Dural, Division of Multibond Inc.
Epoxy Tech M.C.S. Inc.
Fabrication Delta Inc.
Gemdor inc.
Genics Inc.
Groupe For-Min
Helmstin Inc.
Hermary Opto Electronics Inc.
Hunnisett Inc.
Huntsman International (Canada) Corporation
Hydro-Québec
Laboratoire Primatech Inc.
Laboratoires Buckman du Canada Ltée
Les Produits Gilbert inc.
Les Sechoirs de l'Est
Ligand Innovations Corp.
LMI Technologies Inc.
Machinerie Laco inc.
MPM Engineering Ltd.
Nasan Products Limited
Normand Prunes Inc.
P.L.C. inc.
PG Mill Supplies Ltd.
Porter Engineering Ltd.
Premilec inc.
Sawquip International Inc.
Sechoir MEC inc.
Sechoirs Côte Inc.
Sechoirs Kingsey Falls inc.
Silvachem inc.
Systech Industries Inc.
Tembec Besus Group
Timber Specialties Co.
U.S. Borax Inc.
USNR
Yalon Kone Brunette Ltd. (YKB)
Yandegai Inc. (kB Global Services Inc.)
Wagner Electronic Products Inc.
Westmill Industries Limited

# Corporate Information

as at March 31, 2004

## Officers of the Corporation

**Chair**
S. Gray
Executive Vice-President
Weldwood of Canada Limited

**Vice-Chair**
F. LeClair
President, Forest Products Group
Tembec Inc.

**President and CEO**
J.A. de la Roche

**Vice-Presidents**
J.A. Langerfield
J.C. Mercier

**Corporate Secretary**
P.K.P. Chan

## Board of Directors

**Chair**
S. Gray (1)
Executive Vice-President
Weldwood of Canada Limited

**Vice-Chair**
F. LeClair (1)
President, Forest Products Group
Tembec Inc.

M. Bernier
Deputy Minister
Business New Brunswick

M. Bouchard
Vice-President, Quebec Sawmills
Domtar Inc.

D. Bruce
Dean, Faculty of Forestry and Geomatics
Laval University

J. Costantino
Senior Vice-President, Operations
Millar Western Forest Products Ltd.

J.A. de la Roche (2) (3)
President & CEO
Fortntek Canada Corp.

M.J. Douglas (2)
Vice-President, Marketing & Sales
Riverside Forest Products Limited

B. Emmett
Assistant Deputy Minister
Natural Resources Canada (CFS)

R.J. Fessenden
Deputy Minister
Alberta Sustainable Resource Development

J. P. Gilbert
Director
Quebec Ministry of Natural Resources

B. Hislop (1)
Group Vice-President
& Chief Technology Officer
Canadian Forest Products Ltd.

S.K. Ketcham
Director, Corporate Planning
West Fraser Timber Co. Ltd.

P. Labos
Technical and Projects Director
Weyerhaeuser Company Ltd.

J.-S. Lebel
Vice-President
Bowater Forest Products Canada Inc.

B. McRae (2) (3)
Assistant Deputy Minister
British Columbia Ministry of Forests

L. Palmer
President and Director General
Gerard Crete & Fils Inc.

C. Pinette (1) (2)
President & COO
Lignum Ltd.

R. Savard
Manager, Engineering and Operation Services
Abitibi Consolidated Inc.

J.-C. Savoie
President
Groupe Savoie

J.B. Shanston
Executive Vice-President, Wood Products
Norbord Inc.

L. Spaitzer
Deputy Minister
Saskatchewan Industry and Resources

D. Tardif (1)
Senior Vice-President
Kruger inc.

J.S. Thomas
Director General
Industry Canada

## Board Members Resigned or Retired 2003–2004

R. Belanger
J. Dube
Y. Hardy
Y. McKinlay
C.L. Slater

## Board Committees

1. Executive
2. Audit
3. Pension Administration

The Executive Committee acts on behalf of the Board in the intervals between Board meetings. It also approves all member applications, and functions as the Nominating Committee.

The Audit Committee reviews any changes to accounting principles and the annual audit, and approves the financial statements on behalf of the Board.

The Pension Administration Committee fulfills the Corporation's legal responsibilities for the Fortntek Canada Corp. Employees' Pension Plan.

# Planning Committees

as at March 31, 2004

## National Research Program Committee

**Chair**
Alan Potter
Norbord Industries Inc.
Nexfor Technology

Jacques Begin
Quebec Forest Industry Council

Rob Bickford
Weldwood of Canada Limited

George Bruemmer
Tembec Inc.

Serge Constantineau
Domtar Inc.

Jim Engleson
Canadian Forest Products Ltd.

Jim Farrell
Natural Resources Canada (CFS)

Helen Griffin
Weyerhaeuser Company Ltd.

Peter Kolicof
Weyerhaeuser Company Ltd.

Bill Love
Tembec Inc.

Stewart Marconi
Domtar Inc.

Lars McNabb
British Columbia Ministry of Forests

Sylvain Menard
Distribution Open Joist 2000 Inc.

François Rouleau
Quebec Ministry of Natural Resources

Toomas Rudberg
Weyerhaeuser Company Ltd.

Charles Tardif
Maibec Industries Inc.

Cliff Tuttle
Pope & Talbot Ltd.

## Technical Advisory Committees

### Resource Assessment

**Eastern Region Chairman**
George Bruemmer
Tembec Inc.

Yves Barrette
Quebec Ministry of Natural Resources

Jacques Begin
Quebec Forest Industry Council

Jacques Brie
Domtar Inc.

Carl Bryan
Industries Manufacturieres
Mégantic Inc.

France Bruleate
Quebec Ministry of Natural Resources

Pierre Cote
Bowater Forest Products Canada Inc.

Francine Dutrisac
Abitibi-Consolidated Inc.

Francois Dumoulin
Abitibi-Consolidated Inc.

Fraser Dunn
Ontario Ministry of Natural Resources

Jim Farrell
Natural Resources Canada (CFS)

Gilles Gabbury
Quebec Ministry of Natural Resources

Michel Huard
Felix Huard Inc.

Gerard Laforest
Norbord Industries Inc.
Nexfor Technology

Janet Lane
Weyerhaeuser Company Ltd.

Michel Lelarte
Quebec Ministry of Natural Resources

Michel Lessard
Kruger inc.

Peter MacQuarrie
Nova Scotia Department of
Natural Resources

Geoff Munro
Natural Resources Canada (CFS)

Dale Munroe
Abitibi-Consolidated Inc.

Danny Murphy
New Brunswick Department of
Natural Resources and Energy

Muhammed Nazre
Newfoundland and Labrador
Department of Forest Resources
and Agrifoods

Denis Ouellet
Natural Resources Canada (CFS)

Paul Patry
Abitibi-Consolidated Inc.

Ariane Plouffe
Natural Resources Canada (CFS)

Jim Richard
Business New Brunswick

Luc Richard
Gerard Crete et Fils inc.

John Richards
Atlantic Forestry Centre (CFS)

Michel Rivard
Scierie Leduc, Division of Stadacona Inc.

Andre Rouleau
Gestofor Inc.

Vince Santilli
Nova Scotia Department of
Natural Resources

Charles Tardif
Maibec Industries Inc.

**Western Region Chairman**
Peter Kolicof
Weyerhaeuser Company Ltd.

Frank Barber
British Columbia Ministry of Forests

John Barker
University of British Columbia

Henry Benskin
British Columbia Ministry of Forests

Bill Bourgeois
Lignum Ltd.

David Burge
Riverside Forest Products Limited

Tom Connolly
Tolko Industries Ltd.

Gordon Dunwell
Tembec Inc.

Jim Goudie
British Columbia Ministry of Forests

David Harrison
Canadian Forest Products Ltd.

Cliff Henderson
Alberta Sustainable
Resource Development

Bill Herringshaw
Weldwood of Canada Limited

Peter Jacobsen
British Columbia Ministry of Forests

Donna Macey
Natural Resources Canada (CFS)

Bruce MacNicol
West Fraser Timber Co. Ltd.

Barry McKinney
Lignum Ltd.

Lou McNabb
British Columbia Ministry of Forests

Byron Mubly
Weldwood of Canada Limited

Barrie Phillips
British Columbia Ministry of Forests

Ted Seabo
Alberta Innovation and Science

Gary Townsend
British Columbia Ministry of Forests

Ralph Winter
British Columbia Ministry of Forests

Paul Wooding
Canadian Forest Products Ltd.

### Composites

**Co-Chairman**
Rob Bickford
Weldwood of Canada Limited

**Co-Chairman**
Dominique Le Bel
Unibord Canada Inc.

Michael Adams
Huntsman Polyurethanes

Don Alexander
Weldwood of Canada Limited

Bill Arndell
Huntsman Polyurethanes

Tony Baumgartner
Saskatchewan Environment and
Resource Management

Leo Bertrand
Unibord Canada Inc.

# Technical Advisory Committees (continued)

Serge Berube
Dural, Division of Multibond Inc.

Michel Boldue
Louisiana-Pacific Corporation

Carl Breau
Industries Manufacturieres
Mégantic inc.

Elizabeth Cacchione
Norbord Industries Inc.
Nexfor Technology

Alexandre Caron
Silvachem inc.

Allen Cloutis
Ashland Specialty Chemical Company

Mike Crandahl
Westmill Industries Limited

Marc Deschambault
Epoxy Tech M.C.S. Inc.

Roland Dore
Unibord Canada Inc.

Ray Ferris
West Fraser Timber Co. Ltd.

Brad Follack
Federated Co-operatives Limited

Allen Fontaine
Sacopan Inc.

Simon-Pierre Fortin
Tembec Inc.

Gary Forward
Newfoundland and Labrador
Department of Forest Resources
and Agrifoods

Mike Fournier
Columbia Forest Products Co. Ltd.

Chris Fowler
West Fraser Timber Co. Ltd.

Guy Gervais
Quebec Ministry of Natural Resources

Andrew Gu
Norbord Industries Inc.
Nexfor Technology

Sean Gogarty
Holtzim Inc.

William Gonzalez
Clariant (Canada) Inc.

Noel Gremer
Tembec Inc.

Rick Hrasko
West Fraser Timber Co. Ltd.

Bob Jones
Natural Resources Canada (CFS)

Todd King
Ashland Specialty Chemical Company

Bob Kurda
Canadian Forest Products Ltd.

Rick Lankater
Norbord Industries Inc.
Nexfor Technology

Doug Loates
Weyerhaeuser Company Ltd.

Peter MacQuarrie
Nova Scotia Department of
Natural Resources

Mark Manning
U.S. Borax Inc.

Greg Marabia
Riverside Forest Products Limited

Pierre Martin
Unibord Canada Inc.

Jim McCallum
Tembec Resin Group

Ritch McDonald
Carmanah Design and
Manufacturing Inc.

Lou McNabb
British Columbia Ministry of Forests

James McPherson
Longlac Wood Industries Inc.

Luc Michaud
Norbord Industries Inc.
Nexfor Technology

Stefan Muller
Tembec Resin Group

Dan Nguyen
Louisiana-Pacific Corporation

Bill Palm
Lignol Innovations Corp.

Gilles Picard
Laboratoire Primatech inc.

Bryce Piggot
LP Engineered Wood Products Ltd.

Dale Plante
Borden Chemical Canada Inc.

Maurice Poirier
Norbord Industries Inc.
Nexfor Technology

Alan Potter
Norbord Industries Inc.
Nexfor Technology

Dan Price
Tolko Industries Ltd.

Benoit Provost
Dural, Division of Multibond Inc.

Leo Regnier
Tolko Industries Ltd.

Jim Richard
Business New Brunswick

Vince Santilli
Nova Scotia Department of
Natural Resources

Doug Scott
Richmond Plywood
Corporation Limited

Al Simcox
Weldwood of Canada Limited

Roland Stroo
Nacan Products Limited

Jean-Guy St. Amand
Epoxy Tech M.C.S. Inc.

Marius St-Pierre
Unibord Canada Inc.

Garrie Styan
Tolko Industries Ltd.

Ed Szabo
Alberta Innovation and Science

Zoltan Szucs
West Fraser Timber Co. Ltd.

Michael Taylor
Weyerhaeuser Company Ltd.

Gino Theriault
Forets Materiaux de construction Ltee

Gino Trudel
Norbord Industries Inc.
Nexfor Technology

André Verville
Unibord Canada Inc.

Yin Wang
Chemco Acquisition Corp.

Tim Williams
Canadian Forest Products Ltd.

## Lumber Manufacturing

**Chairman**
Gordon Dunwell
Tembec Inc.

**Vice Chairmen**
To be determined

Rene Achard
Sawmill International Inc.

Faruk Ahmed
Weldwood of Canada Limited

Keith Andersen
Lakeland Mills Ltd.

Mike Andrews
Pope & Talbot Ltd.

Charles Audet
Precitech International Inc.

Paul Badlargeon
Scierie Leduc, Division of Stadacona Inc.

Don Banks
Tolko Industries Ltd.

Keith Barrett
Barrett Lumber Co. Ltd.

Kevin Barton
Vandrigo Inc./KB Global Services Inc.

Tony Baumgartner
Saskatchewan Environment and
Resource Management

Joe Bazille
Weyerhaeuser Company Ltd.

Leandre Belanger
Domtar Inc.

Roger Belhumeur
Hydro-Quebec

Denis Berube
Bois d'oeuvre Cedrico

Michel Bouchard
Domtar Inc.

Stephane Bouchard
Abitibi Consolidated Inc.

Denis Boulanger
Bowater Forest Products Canada Inc.

Dan Bowes
Weyerhaeuser Company Ltd.

Tom Briggs
West Fraser Timber Co. Ltd.

Eric Brousseau
UNSOR

# Technical Advisory Committees (continued)

Gustave Brunet
Sylvio Brunet & Fils Ltee

Guy Cardinal
Shermag Inc.

Pierre Champeau
Les Entreprises JM Champeau Inc.

Gordon Clarke
Millar Western Forest Products Ltd.

Serge Constantineau
Domtar Inc.

Ian Corrigall
Valon Kone Brunette Ltd.

Denis Cossette
Chantiers Chibougamau Ltd.

Julie Cote
Sechoirs Cote Inc.

Sebastien Crete
Gerard Crete et Fils inc.

Patrick Dallain
Boscater Forest Products Canada Inc.

Barry Dashner
LMI Technologies Inc.

Bastien Deschênes
Bosaco Inc.

Sylvain Deschênes
Groupe G.D.S. Inc.

Roy Dias
Canadian Forest Products Ltd.

Mike Dion
Sundance Forest Industries Ltd.

Gary Dolinski
Canadian Forest Products Ltd.

Pat Donnelly
Canadian Forest Products Ltd.

Marc Doucet
Abitibi-Consolidated Inc.

Marc Dube
E. Tremblay et Fils ltee

Rosaire Dube
Materiaux Blanchet inc.

Michel Duval
Produits forestiers La Tuque inc.

Gunther Eckert
Porter Engineering Ltd.

Daniel Ethier
Autolog Inc.

Chris Finch
Weldwood of Canada Limited

Gilles Forget
Scierie Claude Forget inc.

Gary Forward
Newfoundland and Labrador
Department of Forest Resources
and Agrifoods

Germain Fournier
P.L.C. inc.

Andre Frolet
Canadian Forest Products Ltd.

Jean-Pierre Gagne
Scierie Leduc, Division of Stadacona Inc.

Bernard Gagnon
Scierie Lac St-Jean inc.

Daniel Gauthier
Scierie Gauthier Ltee

Mario Gauthier
Gemofor Inc.

Bernard Giguere
Comact Inc.

Sylvain Gilbert
Les Produits Gilbert Inc.

Jean-Pierre Girard
Scierie Girard Inc.

Gilbert Godard
Tembec Inc.

Vincent Grondin
Machinerie Lion inc.

Herb Haberl
Mill & Timber Products Limited

Rick Haffner
Pope & Talbot Ltd.

Dave Hagen
Sechita Forest Products Ltd.

Mike Harkins
Tolko Industries Ltd.

Berry Heinen
Boucher Brothers Lumber Ltd.

Martin Hemmgar
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